

In the Specification:

The paragraph at Page 12, line 28-Page 13, line 7 is amended as follows:

A1
Other embodiments may calculate a joint phase error update in a less accurate manner. For example, in an IS-136 equalizer, the value used for the phase error update is the sign of the phase error. Thus, the update to the local AFC has a fixed magnitude, but varies in sign. A similar approach may be used for joint demodulation embodiments. For example, in the two-user case, the pair of phase update values $(\phi_{1,err}, \phi_{2,err})$ could take one of the values belonging to the set $\{(\mu_1, \mu_1), (-\mu_1, \mu_1), (\mu_1, -\mu_1), (-\mu_1, -\mu_1)\}$. The exact value could be chosen by evaluating Equation (12) (10) for each possible value of $(\phi_{1,err}, \phi_{2,err})$ and choosing that pair which minimizes γ . In another embodiment, the $\arg()$ function can be replaced by the approximation $\arg(a \cdot b) = \text{sign}(\text{real}(a)\text{imag}(b) - \text{real}(b)\text{imag}(a))$. To compute $\hat{\phi}_{2,err}$, $\hat{\phi}_{1,err}$, let $a = \hat{y}_{1,l}$ and $b = y_l - \hat{y}_{2,l}$, and to compute $\hat{\phi}_{2,err}$, let $a = \hat{y}_{2,l}$ and $b = y_l - \hat{y}_{1,l}$.